WEST Search History

DATE: Wednesday, October 09, 2002

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB; PLUR=YES; OP=ADJ			
L9	nitrate responsive	2	L9
L8	l1 and lateral root	35	L8
L7	l5 and lateral root	9	L7
L6	l5 and lateral root	9	L6
L5	l4 and maize	78	L5
L4	L3 and transcription factor	88	L4
L3	L1 and transgenic	711	L3
L2	L1 and anr1	1	L2
L1	nitrate and root	5385	L1

END OF SEARCH HISTORY

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TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2	Apr 08	"Ask CAS" for self-help around the clock
NEWS 3	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 4	Apr 09	ZDB will be removed from STN
NEWS 5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS 8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS 9	Jun 03	New e-mail delivery for search results now available
NEWS 10	Jun 10	MEDLINE Reload
NEWS 11	Jun 10	PCTFULL has been reloaded
NEWS 12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS 13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS 14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS 15	Jul 30	NETFIRST to be removed from STN
NEWS 16	Aug 08	CANCERLIT reload
NEWS 17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 18	Aug 08	NTIS has been reloaded and enhanced
NEWS 19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 23	Sep 03	JAPIO has been reloaded and enhanced
NEWS 24	Sep 16	Experimental properties added to the REGISTRY file
NEWS 25	Sep 16	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 26	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 27	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985

NEWS EXPRESS	February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

* * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

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FILE 'HOME' ENTERED AT 11:28:43 ON 09 OCT 2002

=> file agricola caplus biosis
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'AGRICOLA' ENTERED AT 11:28:53 ON 09 OCT 2002

FILE 'CAPLUS' ENTERED AT 11:28:53 ON 09 OCT 2002
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FILE 'BIOSIS' ENTERED AT 11:28:53 ON 09 OCT 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC.(R)

=> s nitrate responsive
L1          44 NITRATE RESPONSIVE

=> s l1 and plant?
L2          17 L1 AND PLANT?

=> dup rem l2
PROCESSING COMPLETED FOR L2
L3            8 DUP REM L2 (9 DUPLICATES REMOVED)

=> d 1-8 ti

L3   ANSWER 1 OF 8  CAPLUS  COPYRIGHT 2002 ACS
TI   Discovery of gene for maize nitrate-responsive root
     transcription factor sequence homologs for control of root development in
     transgenic plants

L3   ANSWER 2 OF 8  AGRICOLA                              DUPLICATE 1
TI   Nitrate-induced genes in tomato roots. Array analysis reveals novel genes
     that may play a role in nitrogen nutrition. [Erratum: Nov 2001, v. 127
     (3), p. 1323.]

L3   ANSWER 3 OF 8  AGRICOLA                              DUPLICATE 2
TI   Identification of light- and nitrate-responsive
     regions of the nitrate reductase promoter from birch.

L3   ANSWER 4 OF 8  CAPLUS  COPYRIGHT 2002 ACS         DUPLICATE 3
TI   Functional analysis of a nitrite reductase promoter from birch in
     transgenic tobacco

L3   ANSWER 5 OF 8  CAPLUS  COPYRIGHT 2002 ACS
TI   Cloning of cDNA for cytokinin-inducible protein 1 from maize

L3   ANSWER 6 OF 8  AGRICOLA                              DUPLICATE 4
TI   Differential expression of genes for response regulators in response to
     cytokinins and nitrate in Arabidopsis thaliana.

L3   ANSWER 7 OF 8  AGRICOLA                              DUPLICATE 5
TI   A response-regulator homologue possibly involved in nitrogen signal
     transduction mediated by cytokinin in maize.

L3   ANSWER 8 OF 8  CAPLUS  COPYRIGHT 2002 ACS
TI   5' Proximal regions of Arabidopsis nitrate reductase genes direct
```

nitrate-induced transcription in transgenic tobacco

=> d ab

L3 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS
AB The invention provides isolated maize **nitrate-responsive** root transcription factor nucleic acids, identified by sequence homol., and their encoded proteins. The present invention provides methods and compns. relating to altering root transcriptional factor levels in transgenic **plants**. The invention further provides recombinant expression cassettes, host cells, and transgenic **plants**.

=> d pi

L3 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002029069	A2	20020411	WO 2001-US30814	20011003
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
AU 2002011353	A5	20020415	AU 2002-11353	20011003
US 2002124284	A1	20020905	US 2001-970624	20011004

=> d 2 ab

L3 ANSWER 2 OF 8 AGRICOLA DUPLICATE 1
AB A subtractive tomato (Lycopersicon esculentum) root cDNA library enriched in genes up-regulated by changes in **plant** mineral status was screened with labeled mRNA from roots of both nitrate-induced and mineral nutrient-deficient (-nitrogen [N], -phosphorus, -potassium [K], -sulfur, -magnesium, -calcium, -iron, -zinc, and -copper) tomato **plants**. A subset of cDNAs was selected from this library based on mineral nutrient-related changes in expression. Additional cDNAs were selected from a second mineral-deficient tomato root library based on sequence homology to known genes. These selection processes yielded a set of 1,280 mineral nutrition-related cDNAs that were arrayed on nylon membranes for further analysis. These high-density arrays were hybridized with mRNA from tomato **plants** exposed to nitrate at different time points after N was withheld for 48 h, for **plants** that were grown on nitrate/ammonium for 5 weeks prior to the withholding of N. One hundred-fifteen genes were found to be up-regulated by nitrate resupply. Among these genes were several previously identified as **nitrate responsive**, including nitrate transporters, nitrate and nitrite reductase, and metabolic enzymes such as transaldolase, transketolase, malate dehydrogenase, asparagine synthetase, and histidine decarboxylase. We also identified 14 novel nitrate-inducible genes, including: (a) water channels, (b) root phosphate and K+ transporters, (c) genes potentially involved in transcriptional regulation, (d) stress response genes, and (e) ribosomal protein genes. In addition, both families of nitrate transporters were also found to be inducible by phosphate, K, and iron deficiencies. The identification of these novel nitrate-inducible genes is providing avenues of research that will yield new insights into the molecular basis of **plant** N nutrition, as well as possible networking between the regulation of N, phosphorus, and K nutrition.

=> d 2 so

L3 ANSWER 2 OF 8 AGRICOLA DUPLICATE 1
SO Plant physiology, Sept 2001. Vol. 127, No. 1. p. 345-359
Publisher: Rockville, MD : American Society of Plant Physiologists, 1926-
CODEN: PLPHAY; ISSN: 0032-0889

=> d 6 ab

L3 ANSWER 6 OF 8 AGRICOLA DUPLICATE 4
AB In Arabidopsis thaliana, a number of response regulators are presumably involved in His-Asp phosphorelay signal transduction in response to environmental stimuli, such as phytohormones. Previously, it was shown that expression of a certain set of genes for response regulators are cytokinin- and **nitrate-responsive** in their mRNA accumulation, under certain growth conditions [Taniguchi et al. (1998) FEBS Lett. 429: 259, Brandstatter and Kieber (1998) **Plant** Cell 10: 1009]. To answer the critical question of whether or not other response regulator genes, so far identified in Arabidopsis thaliana, are also cytokinin-inducible, here an extended comparative examination was carried out. It was demonstrated that not all of response regulator genes are necessarily cytokinin-responsive in their transcription. Rather, the members of a certain subfamily (type-A) are cytokinin-responsive, but those belonging to the other (type-B) are not. The presumed nitrate-responsiveness was also assessed for the same set of response regulators, and the analogous view was supported. These results suggest that the two subtypes of response regulators differ from each other, as judged from not only their structural designs, but also the expression profiles of their transcripts in response to **plant** stimuli.

=> d 7 ab

L3 ANSWER 7 OF 8 AGRICOLA DUPLICATE 5
AB A cDNA clone, pZmCip1, encoding a maize (Zea mays) cytokinin-inducible protein 1 was isolated utilizing the differential display technique, and studied using the expression of ZmCip1 in nitrogen-starved maize **plants**. The cloned cDNA contained an open reading frame consisting of 157 amino acids with a predicted molecular mass of 16.7 kDa, which possesses similarity with the response-regulators of bacterial two-component signalling systems. In detached leaves, accumulation of ZmCip1 transcript by t-zeatin was dose-dependent in a range of 10(-9) M to 10(-7) M, and occurred within 30 min after treatment. The effect of t-zeatin was replaceable by isopentenyl-adenosine or isopentenyl-adenosine-5'-monophosphate. Pretreatment of detached leaves with cycloheximide did not inhibit the accumulation of the transcript. In whole **plants**, ZmCip1 transcript was transiently accumulated exclusively in leaves by supply of nitrate or ammonium ions to the roots, whereas the transcript was not accumulated in detached leaves by supply of the nitrogen nutrients. Both the cytokinin- and **nitrate-responsive** accumulations of ZmCip1 transcript were accompanied by an increase in the immunotitratable protein. Isopentenyladenosine and/or its phosphorylated form(s) accumulated in roots 2 h after supply of nitrate to **plants** . These results, taken together, suggest that ZmCip1 is a primary response gene to cytokinins, and that it involves, at least in part, the nitrogen-signal transduction mediated by cytokinin in maize.

=> s nitrate and root?
L4 15273 NITRATE AND ROOT?

=> s l4 and lateral root?

L5 193 L4 AND LATERAL ROOT?

=> s l5 and (gene or cdna or coding region)
L6 31 L5 AND (GENE OR CDNA OR CODING REGION)

=> dup rem l6
PROCESSING COMPLETED FOR L6
L7 15 DUP REM L6 (16 DUPLICATES REMOVED)

=> d 1-15 ti

L7 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
TI The novel symbiotic phenotype of enhanced-nodulating mutant of Lotus japonicus: astray mutant is an early nodulating mutant with wider nodulation zone

L7 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 2
TI The Arabidopsis dual-affinity **nitrate** transporter **gene** AtNRT1.1 (CHL1) is regulated by auxin in both shoots and **roots**

L7 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
TI AUX1 promotes **lateral root** formation by facilitating indole-3-acetic acid distribution between sink and source tissues in the arabidopsis seedling

L7 ANSWER 4 OF 15 AGRICOLA DUPLICATE 4
TI The Arabidopsis dual-affinity **nitrate** transporter **gene** AtNRT1.1 (CHL1) is activated and functions in nascent organ development during vegetative and reproductive growth.

L7 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2002 ACS
TI Soil and plant specific effects on bacterial community composition in the rhizosphere

L7 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI ABA plays a central role in mediating the regulatory effects of **nitrate** on **root** branching in Arabidopsis.

L7 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 5
TI Control of plant development by limiting factors: a nutritional perspective

L7 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 6
TI Impact of Agrobacterium tumefaciens-induced stem tumors on NO3- uptake in Ricinus communis

L7 ANSWER 9 OF 15 AGRICOLA DUPLICATE 7
TI Regulation of Arabidopsis **root** development by **nitrate** availability.

L7 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2002 ACS
TI **Nitrate** acts as a signal to control **gene** expression, metabolism and biomass allocation

L7 ANSWER 11 OF 15 AGRICOLA DUPLICATE 8
TI Evidence for **nitrate** reductase expression during initiation of **lateral roots** by NAA in chicory.

L7 ANSWER 12 OF 15 AGRICOLA DUPLICATE 9
TI Expression studies of Nrt2:1Np, a putative high-affinity **nitrate** transporter: evidence for its role in **nitrate** uptake.

L7 ANSWER 13 OF 15 AGRICOLA DUPLICATE 10
TI An Arabidopsis MADS box **gene** that controls nutrient-induced

changes in **root** architecture.

L7 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2002 ACS
TI Molecular and genetic insights into shoot control of nodulation in soybean

L7 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 11
TI Studies on the **root** control of non-nodulation and plant growth of non-nodulating mutants and a supernodulating mutant of soybean (Glycine max (L.) Merr.)

=> d 3 ab

L7 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
AB Arabidopsis **root** architecture is regulated by shoot-derived signals such as **nitrate** and auxin. We report that mutations in the putative auxin influx carrier AUX1 modify **root** architecture as a result of the disruption in hormone transport between indole-3-acetic acid (IAA) source and sink tissues. Gas chromatog.-selected reaction monitoring-mass spectrometry measurements revealed that the aux1 mutant exhibited altered IAA distribution in young leaf and **root** tissues, the major IAA source and sink organs, resp., in the developing seedling. Expression studies using the auxin-inducible reporter IAA2::uidA revealed that AUX1 facilitates IAA loading into the leaf vascular transport system. AUX1 also facilitates IAA unloading in the primary **root** apex and developing **lateral root** primordium. Exogenous application of the synthetic auxin 1-naphthylacetic acid is able to rescue the aux1 **lateral root** phenotype, implying that **root** auxin levels are suboptimal for **lateral root** primordium initiation in the mutant.

=> d 4 ab

L7 ANSWER 4 OF 15 AGRICOLA DUPLICATE 4
AB The AtNRT1.1 (CHL1) transporter provides a primary mechanism for **nitrate** uptake in Arabidopsis and is expected to localize to the epidermis and cortex of the mature **root**, where the bulk of **nitrate** uptake occurs. Using fusions to GFP/GUS marker genes, we found CHL1 expression concentrated in the tips of primary and **lateral roots**, with very low signals in the epidermis and cortex. A time-course study showed that CHL1 is activated in the primary **root** tip early in seedling development and at the earliest stages of **lateral root** formation. Strong CHL1 expression also was found in shoots, concentrated in young leaves and developing flower buds but not in the shoot meristem. These expression patterns were confirmed by immunolocalization and led us to examine CHL1 function specifically in the growth of developing organs. chl1 mutants showed a reduction in the growth of nascent **roots**, stems, leaves, and flower buds. The growth of nascent primary **roots** was inhibited in the mutants even in the absence of added **nitrate**, whereas elongation of **lateral root** primordia was inhibited specifically at low **nitrate** and acidic pH. Interestingly, chl1 mutants also displayed a late-flowering phenotype. These results indicate that CHL1 is activated and functions in the growth of nascent organs in both shoots and **roots** during vegetative and reproductive growth.

=> d 4 so

L7 ANSWER 4 OF 15 AGRICOLA DUPLICATE 4
SO The Plant cell, Aug 2001. Vol. 13, No. 8. p. 1761-1777
Publisher: [Rockville, MD : American Society of Plant Physiologists,

c1989-
CODEN: PLCEEW; ISSN: 1040-4651

=> d 6 ab

L7 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB The formation of **lateral roots** (LR) is a major post-embryonic developmental event in plants. In Arabidopsis thaliana, LR development is inhibited by high concentrations of NO3-. Here we present strong evidence that ABA plays an important role in mediating the effects of NO3- on LR formation. Firstly, the inhibitory effect of NO3- is significantly reduced in three ABA insensitive mutants, abi4-1, abi4-2 and abi5-1, but not in abi1-1 and abi3-1. Secondly, inhibition by NO3- is significantly reduced, but not completely abolished, in four ABA synthesis mutants, aba1-1, aba2-3, aba2-4 and aba3-2. These results indicate that there are two regulatory pathways mediating the inhibitory effects of NO3- in A. thaliana **roots**. One pathway is ABA-dependent and involves ABI4 and ABI5, whereas the second pathway is ABA-independent. In addition, ABA also plays a role in mediating the stimulation of LR elongation by local NO3- applications.

=> d 6 so

L7 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
SO Plant Journal, (December, 2001) Vol. 28, No. 6, pp. 655-662.
http://www.blackwell-science.com/ cgilib/jnlpage.bin?Journal=TPJ&File=TPJ&Page=aims. print.
ISSN: 0960-7412.

=> d 13 ab

L7 ANSWER 13 OF 15 AGRICOLA DUPLICATE 10
AB The development of plant **root** systems is sensitive to the availability and distribution of nutrients within the soil. For example, **lateral roots** proliferate preferentially within **nitrate** (NO3-)-rich soil patches. A NO3--inducible Arabidopsis **gene** (ANR1), was identified that encodes a member of the MADS box family of transcription factors. Transgenic plants in which ANR1 was repressed had an altered sensitivity to NO3- and no longer responded to NO3--rich zones by **lateral root** proliferation, indicating that ANR1 is a key determinant of developmental plasticity in Arabidopsis **roots**.

=> d 13 so

L7 ANSWER 13 OF 15 AGRICOLA DUPLICATE 10
SO Science, Jan 16, 1998. Vol. 279, No. 5349. p. 407-409
Publisher: Washington, D.C. : American Association for the Advancement of Science.
CODEN: SCIEAS; ISSN: 0036-8075

=> dis his

(FILE 'HOME' ENTERED AT 11:28:43 ON 09 OCT 2002)

FILE 'AGRICOLA, CAPLUS, BIOSIS' ENTERED AT 11:28:53 ON 09 OCT 2002
L1 44 S NITRATE RESPONSIVE
L2 17 S L1 AND PLANT?
L3 8 DUP REM L2 (9 DUPLICATES REMOVED)

```
L4        15273 S NITRATE AND ROOT?
L5          193 S L4 AND LATERAL ROOT?
L6           31 S L5 AND (GENE OR CDNA OR CODING REGION)
L7           15 DUP REM L6 (16 DUPLICATES REMOVED)

=> s nitrate and transcription factor and root?
L8            4 NITRATE AND TRANSCRIPTION FACTOR AND ROOT?

=> dup rem l8
PROCESSING COMPLETED FOR L8
L9            3 DUP REM L8 (1 DUPLICATE REMOVED)

=> d 1-3 ti

L9   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2002 ACS
TI   Discovery of gene for maize nitrate-responsive root
     transcription factor sequence homologs for control of
     root development in transgenic plants

L9   ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2002 ACS
TI   Sequence-determined DNA fragments and corresponding encoded polypeptides
     from corn and Arabidopsis

L9   ANSWER 3 OF 3  CAPLUS  COPYRIGHT 2002 ACS         DUPLICATE 1
TI   Azorhizobium caulinodans nitrogen fixation (nif/fix) gene regulation:
     mutagenesis of the nifA -24/-12 promoter element, characterization of a
     ntrA(rpoN) gene, and derivation of a model


=> d 2 ab

L9   ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2002 ACS
AB   The present invention provides DNA mols. that constitute fragments of the
     genome and cDNAs from Zea mays mays (HYBRID SEED #35A19) and Arabidopsis
     thaliana (ecotype Wassilewski), and polypeptides encoded thereby.  The DNA
     mols. are useful for specifying a gene product in cells, either as a
     promoter or as a protein coding sequence or as an UTR or as a 3'
     termination sequence, and are also useful in controlling the behavior of a
     gene in the chromosome, in controlling the expression of a gene or as
     tools for genetic mapping, recognizing or isolating identical or related
     DNA fragments, or identification of a particular individual organism, or
     for clustering of a group of organisms with a common trait.  Arabidopsis
     DNA is used in the present expt., but the procedure is a general one.
     Protocols are provided for Southern hybridizations and transformation of
     carrot cells.  [This abstr. record is one of 15 records supplemental to
     CA13316218528Q necessitated by the large no. of index entries required to
     fully index the document and publication system constraints.].


=> d 2 pi

L9   ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2002 ACS
     PATENT NO.         KIND  DATE           APPLICATION NO.  DATE
     ---------------    ----  --------       ---------------  --------
PI   EP 1033405         A2    20000906       EP 2000-301439   20000225
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
     CA 2300692         AA    20000825       CA 2000-2300692  20000225
     CA 2302828         AA    20001006       CA 2000-2302828  20000406
     EP 1055728         A2    20001129       EP 2000-303770   20000504
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
     EP 1054060         A2    20001122       EP 2000-304161   20000517
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
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IE, SI, LT, LV, FI, RO

=> s anr1
L10 25 ANR1

=> s l10 and transgenic
L11 3 L10 AND TRANSGENIC

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12 1 DUP REM L11 (2 DUPLICATES REMOVED)

=> d ti

L12 ANSWER 1 OF 1 AGRICOLA DUPLICATE 1
TI An Arabidopsis MADS box gene that controls nutrient-induced changes in root architecture.

=> d so

L12 ANSWER 1 OF 1 AGRICOLA DUPLICATE 1
SO Science, Jan 16, 1998. Vol. 279, No. 5349. p. 407-409
Publisher: Washington, D.C. : American Association for the Advancement of Science.
CODEN: SCIEAS; ISSN: 0036-8075

=> dup rem l10
PROCESSING COMPLETED FOR L10
L13 15 DUP REM L10 (10 DUPLICATES REMOVED)

=> s l10 and plant?
L14 14 L10 AND PLANT?

=> s l13 and plant?
L15 5 L13 AND PLANT?

=> d 1-5 ti

L15 ANSWER 1 OF 5 AGRICOLA
TI Genomic analysis of a nutrient response in arabidopsis reveals diverse expression patterns and novel metabolic and potential regulatory genes induced by nitrate.

L15 ANSWER 2 OF 5 AGRICOLA
TI Regulation of Arabidopsis root development by nitrate availability.

L15 ANSWER 3 OF 5 AGRICOLA
TI An Arabidopsis MADS box gene that controls nutrient-induced changes in root architecture.

L15 ANSWER 4 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Environmental factors controlling flower opening and closing in a Portulaca hybrid.

L15 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Functional analysis of a novel nitrogen-inducible MADS-box gene expressed in Arabidopsis roots.

=> d 5 so

L15 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
SO Plant Physiology (Rockville), (1997) Vol. 114, No. 3 SUPPL., pp. 72.
Meeting Info.: PLANT BIOLOGY '97: 1997 Annual Meetings of the American Society of Plant Physiologists and the Canadian Society of Plant Physiologists, Japanese Society of Plant Physiologists and the Australian Society of Plant Physiologists Vancouver, British Columbia, Canada August 2-6, 1997
ISSN: 0032-0889.

=> d 5 ab

L15 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

=> d 5 au

L15 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AU Zhang, Hanma; Forde, Brian G.

=> d 3 ab

L15 ANSWER 3 OF 5 AGRICOLA
AB The development of **plant** root systems is sensitive to the availability and distribution of nutrients within the soil. For example, lateral roots proliferate preferentially within nitrate (NO3-)-rich soil patches. A NO3--inducible Arabidopsis gene (**ANR1**), was identified that encodes a member of the MADS box family of transcription factors. Transgenic **plants** in which **ANR1** was repressed had an altered sensitivity to NO3- and no longer responded to NO3--rich zones by lateral root proliferation, indicating that **ANR1** is a key determinant of developmental plasticity in Arabidopsis roots.

=> d 3 so

L15 ANSWER 3 OF 5 AGRICOLA
SO Science, Jan 16, 1998. Vol. 279, No. 5349. p. 407-409
Publisher: Washington, D.C. : American Association for the Advancement of Science.
CODEN: SCIEAS; ISSN: 0036-8075

=> d ab

L15 ANSWER 1 OF 5 AGRICOLA
AB Microarray and RNA gel blot analyses were performed to identify Arabidopsis genes that responded to nitrate at both low (250 micromolar) and high (5 to 10 mM) nitrate concentrations. Genes involved directly or indirectly with nitrite reduction were the most highly induced by nitrate. Most of the known nitrate-regulated genes (including those encoding nitrate reductase, the nitrate transporter NRT1, and glutamate synthase) appeared in the 40 most strongly nitrate-induced genes/clones on at least one of the microarrays of the 5524 genes/clones investigated. Novel nitrate-induced genes were also found, including those encoding (1) possible regulatory proteins, including an MYB transcription factor, a calcium antiporter, and putative protein kinases; (2) metabolic enzymes, including transaldolase and transketolase of the nonoxidative pentose pathway, malate dehydrogenase, asparagine synthetase, and histidine decarboxylase; and (3) proteins with unknown functions, including nonsymbiotic hemoglobin, a senescence-associated protein, and two methyl-transferases. The primary pattern of induction observed for many of these genes was a transient increase in mRNA at low nitrate concentrations

and a sustained increase when treated with high nitrate concentrations. Other patterns of induction observed included transient inductions after both low and high nitrate treatments and sustained or increasing amounts of mRNA after either treatment. Two genes, AMT1;1 encoding an ammonium transporter and **ANR1** encoding a MADS-box factor, were repressed by nitrate. These findings indicate that nitrate induces not just one but many diverse responses at the mRNA level in Arabidopsis.

```
=> d so

L15  ANSWER 1 OF 5  AGRICOLA
SO   The Plant cell, Aug 2000. Vol. 12, No. 8. p. 1491-1509
     Publisher: [Rockville, MD : American Society of Plant Physiologists,
     c1989-
     CODEN: PLCEEW; ISSN: 1040-4651


=> d au

L15  ANSWER 1 OF 5  AGRICOLA
AU   Wang, R.; Guegler, K.; LaBrie, S.T.; Crawford, N.M.


=> s maize and nitrate and root?
L16       1016 MAIZE AND NITRATE AND ROOT?

=> s l16 and transcription factor
L17          1 L16 AND TRANSCRIPTION FACTOR

=> d ti

L17  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2002 ACS
TI   Discovery of gene for maize nitrate-responsive
     root transcription factor sequence homologs
     for control of root development in transgenic plants


=> d pi

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     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
PI   WO 2002029069      A2   20020411       WO 2001-US30814  20011003
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
             HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, LR, LS, LT, LU, LV,
             MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE,
             SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,
             ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR
     AU 2002011353      A5   20020415       AU 2002-11353    20011003
     US 2002124284      A1   20020905       US 2001-970624   20011004


=> s ((bruce w?) or (bruce, w?))/au
L18       838 ((BRUCE W?) OR (BRUCE, W?))/AU

=> s l18 and nitrate
L19        13 L18 AND NITRATE

=> dup rem l19
PROCESSING COMPLETED FOR L19
```

L20 7 DUP REM L19 (6 DUPLICATES REMOVED)

=> d 1-7 ti

L20 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2002 ACS
TI Discovery of gene for maize **nitrate**-responsive root transcription factor sequence homologs for control of root development in transgenic plants

L20 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
TI Analysis and formation of nitrosamines in the human intestine

L20 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 2
TI Absence of volatile nitrosamines in human feces

L20 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
TI Reevaluation of **nitrate** and nitrite levels in the human intestine

L20 ANSWER 5 OF 7 AGRICOLA DUPLICATE 4
TI Analysis of **nitrate**, nitrite, and nitrosamines in human feces.

L20 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 5
TI Nitrite and **nitrate** are formed by endogenous synthesis in the human intestine

L20 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2002 ACS
TI (Benzylideneamino)guanidines